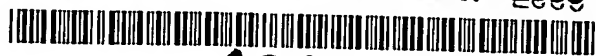


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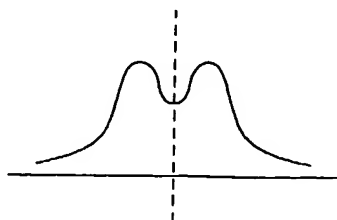
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(54) Title: APPARATUS FOR CUTTING GLASS PLATE



(57) Abstract: Disclosed herein is an apparatus for cutting a glass plate. The apparatus comprises a cracking means for forming a minute crack at a point on the glass plate where the cutting is started, at least one scribing means using a laser beam absorbed by the glass plate, at least one quenching means using a quenching fluid after irradiation of the laser beam, a breaking means using the laser beam. The breaking means comprises a laser oscillator, a reflection mirror and a focusing lens. The focusing lens has at least two or more focal lengths. The apparatus may further comprise a photo mask formed with light transmission openings for transmitting a part of the laser beam to be irradiated on the glass plate instead of the focusing lens. With the apparatus of the present invention, the problems caused by the conventional lens, such as a reduced straightness of a cutting

line or a rough cutting plane, can be prevented, thereby providing a clean cutting plane.

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A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C03B, B23K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI, EPODOC, PAJ.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0062484 A (CREATIVE GLASSWORKS INTERNATIONAL) 13 October 1982 (13.10.1982) <i>fig. 2,3; page 14, lines 9-33.</i>	1,5
A	JP 63 016893 A (KOMATSU LTD) 23 January 1988 (23.01.1988) <i>abstract; fig.</i>	1
A	US 3777280 (Pohl) 4 December 1973 (04.12.1973) <i>claims 1-7; fig. 1.</i>	1-4

☐ Further documents are listed in the continuation of Box C.

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Information on patent family members

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Patent document cited in search report			Publication date	Patent family member(s)	Publication date
EP	A	062484		none	
JP	A	63016893 A2		none	
US	A	3777280	1973-12-04	none	